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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/618,873

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Seshadri Nambirajan

Seshadri 1999-0357

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EXAMINER

MATTIS, JASON E

ART UNIT

PAPER NUMBER

2665

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/618,873

Applicant(s)

NAMBIRAJAN, SESHADRI

Examiner

Jason E Mattis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 3 lines 2-3 of the specification state that "Figure 2 shows 5 frames, where slot 2 is allocated to phone 10." Figure 2 does not show 5 frames. It shows 1 frame with 5 blocks.

Appropriate correction is required.

Claim Objections

2. Claims 7, 8, 9, and 10 are objected to because of the following informalities: Some elements of claims 7, 8, 9, and 10 are not specifically mentioned in, or use different terminology than, the specification, therefor; it is unclear as to what is being claimed. There is no mention in the specification of "time slots having a first specified ordinal position in a block." There is also no mention in the specification of "slots having a second ordinal position." Further there is not mention in the specification of a "subset of blocks of said frame." Appropriate correction is required.

3. Claim 22 is objected to because of the following informalities: Claim 22 states "The method of claim 21 where said control node receives said message from said station via said destination." There is no antecedent basis for "said destination." Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 3, 4, 5, 6, 7, 16, 17, 18, 19, 20, 21, 22, 23, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Jamal (U.S. Pat. 5754537).

With respect to claim 1, Jamal discloses a cellular telecommunications system 100 comprising radio network control nodes 104 and 106, base stations 108, 110, 112, 114, 116, and 118, and mobile stations M1-M10 (**See column 5 lines 26-36 and Figure 1 of Jamal for reference to the cellular telecommunications system**). Jamal also discloses a method for controlling bandwidth in the telecommunications system 100 (**See column 6 line 9 to column 11 line 31 and Figures 2, 3A, 3B, and 4 in Jamal for reference to the bandwidth controlling method**). The method of Jamal includes a step for sending a control message to reduce the bandwidth of a channel when it is determined a speech burst is complete, meaning the mobile station is in a silent period. The step inherently implies that there is a means to determine when a mobile station enters a silent period. The method of Jamal also includes a step sending a control message to increase the bandwidth of the channel when a new speech burst occurs, meaning the mobile stat is in an active period. This step inherently implies that there is a means to determine when a mobile station enters an active period. The

method disclosed by Jamal further includes a step of determining if excess timeslots are available before increasing the bandwidth of the channel when entering an active period **(See column 6 lines 52-62 of Jamal for reference to this step)**.

With respect to claim 2, Jamal discloses a cellular communications system with mobile stations M1-M10, which are cellular phones, and base stations 108, 110, 112, 114, 116, and 118 **(See column 6 line 9 to column 11 line 31 and Figures 2, 3A, 3B, and 4 in Jamal for reference to the bandwidth controlling method)**.

With respect to claims 20 and 23, Jamal inherently discloses steps of determining when a mobile station is entering a sleep period and when a mobile station is entering an active period. This step must include measuring the speech data to make these determinations **(See column 6 line 9 to column 11 line 31 and Figures 2, 3A, 3B, and 4 in Jamal for reference to the bandwidth controlling method)**.

With respect to claims 21, 22, 24, and 25, the bandwidth controlling method of Jamal discloses the mobile stations M1-M10 sending access requests to send speech data at full bandwidth when entering an active period and sending access requests to reduce bandwidth when not sending speech data in a sleep period **(See column 7 line 46 to column 9 line 60 and Figures 3A and 3B of Jamal for reference to access requests)**. These access requests are sent to the base stations and received by a control node.

With respect to claim 3, Jamal discloses a cellular communications system with mobile stations M1-M10, which are cellular phones, and base stations 108, 110, 112, 114, 116, and 118 **(See column 5 lines 26-36 and Figure 1 of Jamal for reference to**

the cellular telecommunications system). Although Jamal does not specifically state that the radio control nodes 104 and 106 are within the base stations 108, 110, 112, 114, 116, and 118, Jamal discloses that functions of these blocks may be distributed in different ways throughout the components of the cellular telecommunications system 100 (See column 10 lines 1-16 of Jamal for reference to distributing the functions).

With respect to claim 4, Jamal discloses speech data packets are communicated in assigned time slots occurring at a given rate (**See column 6 lines 9-27 of Jamal for reference to assigned time slots occurring at a given rate**).

With respect to claims 5 and 6, Jamal discloses, in the bandwidth controlling method, reducing the bandwidth of a channel by specifying that the time slots occur at a lower rate, which creates a lower average rate (**See column 7 line 46 to column 9 line 60 and Figures 3A and 3B of Jamal for reference to time slots occurring at a lower rate**).

With respect to claim 7, Jamal further discloses that the timeslots have numbered positions and that a block of timeslots form a frame (**See column 6 lines 9-27 of Jamal for reference to frames**).

With respect to claim 16, Jamal discloses communicating the speech packet data in an assigned frequency band (**See column 6 lines 9-27 for reference to assigned frequency bands**).

With respect to claim 17, in the bandwidth controlling method of Jamal, the steps of determining when a silent period is being entered and reducing the bandwidth of the communication channel only occur when the mobile stations are currently

operating at full bandwidth (**See column 7 line 46 to column 9 line 60 and Figures 3A and 3B in Jamal for reference to this process**).

With respect to claim 18, in the bandwidth controlling method of Jamal, the steps to determine when a mobile station is entering an active period, determining whether excess need bandwidth exists, and increasing the bandwidth the channel only occur when the mobile station is currently operating at a reduced bandwidth (**See column 7 line 46 to column 9 line 60 and Figures 3A and 3B in Jamal for reference to this process**).

With respect to claim 19, Jamal discloses that the bandwidth controlling method is executed for each mobile station sharing the transmission medium (**See column 7 line 436 to column 9 line 60 and Figures 3A and 3B of Jamal for reference to the bandwidth controlling method being executed for multiple mobile stations**).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8, 9, 10, 11, 12, 13, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jamal in view of Söllner et al. (U.S. Pat. 5506837).

With respect to claims 11 and 12, Jamal discloses that the reduced bandwidth and freed capacity of the bandwidth controlling method is related to a reduced quality of

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service (**See column 2 line 59 to column 3 line 15 of Jamal for reference to a reduced quality of service**). Jamal also discloses that the freed number of time slots is enough to provide a reduced quality of service for another mobile station (**See column 7 line 46 to column 9 line 60 and Figure 3A and 3B of Jamal for reference to providing reduced quality of service to another mobile station**).

With respect to claim 13, Jamal discloses that the freed timeslots can be assigned to a different mobile station (**See column 7 line 46 to column 9 line 60 and Figure 3A and 3B of Jamal for assigning freed timeslots to a different mobile station**).

With respect to claims 14 and 15, Jamal discloses that the different mobile station, which is assigned the freed timeslots, can send speech data packets or other non real-time data packets (**See column 9 lines 61-67 of Jamal for reference to sending speech data packets and other non real-time data packets**).

Jamal differs from claims 8, 9, 10, 11, 12, 13, 14, and 15 in that Jamal does not disclose timeslots having a second ordinal position in a subset of blocks, not less than a pre-selected proportion or not less than one quarter of the number of blocks in a frame.

Söllner et al., in the field of communications, discloses dividing a frame of timeslots into a set of eight sub-blocks (**See column 4 lines 29-56 of Söllner et al. for reference to the timeslot divisions**). This division into a subset of blocks is not less than a pre-selected proportion and not less than one quarter of the number of blocks in the frame. This method has the advantage of better organizing freed timeslots.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Söllner et al. to apply the division of a frame into subsets of blocks to the cellular telecommunications system of Jamal, with the motivation being to better organize freed timeslots.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Davis (U.S. Pat. 5943316) discloses a system for allocating bandwidth among a plurality of radio connections. Wallentin et al. (U.S. Pat. 6347091) discloses a method and apparatus for dynamically allocating bandwidth between a mobile station and a radio access network depending on connection state parameters. Davidson et al. (U.S. Pat. 6483820) discloses a system and method for dynamic demand based bandwidth allocation in a mobile communications network. Kurtz (U.S. Pat. 6111870) discloses a dynamic timeslot/bandwidth allocation feature in an RF telecommunications system. Kolbenson et al. (U.S. Pat. 5594727) discloses a telephone switch providing dynamic allocation of time division multiplex resources. Anderson et al. (U.S. Pat. 5818820) discloses a method and system where bandwidth is dynamically allocated by increasing and decreasing the number of timeslots allocated to a channel in a frame.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (703) 305-8702. The examiner can normally be reached on M-F 8AM-4:30PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on **(703)305-4798**. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-9051.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

jem


RICKY NGO
PRIMARY EXAMINER